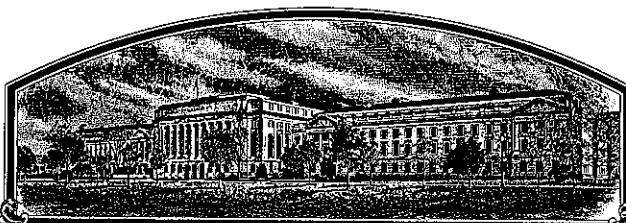


No.

9500014



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Western Plant Breeders

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (34 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Kofa'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirty-first day of October in the year of our Lord one thousand nine hundred and ninety-five.

Attest:

Mauda A. Stender

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Samuel J. Hittman
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) WESTERN PLANT BREEDERS, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. PH888-260	3. VARIETY NAME KOFA
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) 8111 Timberline Drive Bozeman, MT 59715		5. PHONE (include area code) (406)587-1218	FOR OFFICIAL USE ONLY PVPO NUMBER 9500014 Filing Date Oct. 17, 1994 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M. Filing and Examination Fee: \$ 2325.00 Date Oct. 17, 1994 Certificate Fee: \$ 300.00 Date Oct. 2, 1995
6. GENUS AND SPECIES NAME Triticum durum	7. FAMILY NAME (Botanical) Gramineae		
8. CROP KIND NAME (Common Name) Durum wheat	9. DATE OF DETERMINATION May 1, 1992		
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Arizona		12. DATE OF INCORPORATION August 24, 1990	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Kim C. Shantz Western Plant Breeders, 6720 West Chicago St. #4 Chandler, AZ 85226			

PHONE (include area code):

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

a. ☒ Exhibit A, Origin and Breeding History of the Variety.

b. ☒ Exhibit B, Novelty Statement.

c. ☒ Exhibit C, Objective Description of Variety.

d. ☐ Exhibit D, Additional Description of Variety.

e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____

g. ☒ Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.)
☐ YES (If "YES," answer items 16 and 17 below) ☒ NO (If "NO," skip to item 18 below)

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

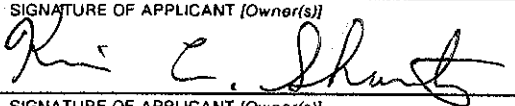
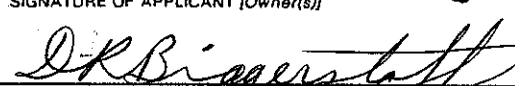
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____)
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☒ YES (If "YES," give names of countries and dates) **December, 1993 U.S.A.**
☐ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT [Owner(s)] 	CAPACITY OR TITLE Wheat Breeder	DATE 9/16/94
SIGNATURE OF APPLICANT [Owner(s)] 	CAPACITY OR TITLE General Manager	DATE 9-30-94

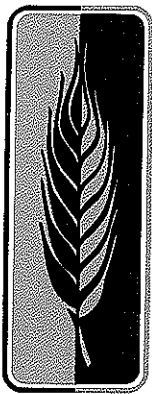
14 A.

Origin and Breeding History

KOFA is a spring durum wheat selected from a Western Plant Breeders' generated Male Sterile Facilitated Recurrent Selection (MSFRS) population designated Dicoccom alpha-85 S-1. Dicoccom alpha-85 was developed by crossing desert durum lines and varieties onto male sterile plants in Dicoccom alpha-84 in 1985. Dicoccom alpha-85 is basically backcross two of adapted durum lines to a cross between male sterile plants in SDP-82 S-1 and a group of higher protein Triticum dicoccom lines. The Triticum dicoccom lines were obtained from Dr. Giles Waines of the University of California Riverside in 1983. Two crosses were made from each of the following T. dicoccom lines: G3847, G3881, G3882, G3886, G3892, G3899, G3902, G3903, G3904, G3905, G3906, G3908, G3911, G3930, G3956, G3971, G3984, G3987, G3988, G4015, G4022, G4023, G4025, and G4034. The crosses were bulked and the F1 was grown at Bozeman, Montana in 1985. From the F2 grown at Phoenix, Arizona in 1986, selected heads were bulked and the resulting F3 was grown at Bozeman, Montana in 1986. Spikes were selected and were grown as head rows at Phoenix, Arizona in 1987. Spikes were selected from desirable rows and F5 head rows were planted at Phoenix, Arizona in 1988. One row designated as PH888-260 was harvested in bulk and yield tested in the Desert Durum area in 1989, 1990, 1991, and 1992. In 1991, 24 spikes of PH888-260 were selected and were grown as head rows at Bozeman, Montana. Twelve non segregating rows were selected and seeded as head row plots at Phoenix in 1992. The resulting seed was used to plant ten acres at Bozeman, Montana in 1992. Foundation seed was produced in Yuma, Arizona in 1993. A variant that is similar to KOFA but is 10 cm. to 15cm. taller occurs at a frequency of .02%.

KOFA is a stable and uniform cultivar in agronomic appearance and performance across several generations and growing conditions. Agronomic data to support stability is

presented in the table. The selection criteria used during the breeding of KOFA were good yield, high per cent protein, good test weight, semidwarf growth habit, acceptable flowering date, good semolina color, high sedimentation values, high hard amber vitreous counts, strong mixographs, high alveograph W values, and excellent spaghetti firmness scores.



Western Plant Breeders

"Breeders of WestBred™ Varieties"

9500014
EX. AGE

April 29, 1995

Mr. Alan A. Atchley
USDA/AMS/SD
Plant Variety Protection Office
10301 Baltimore Blvd.
Beltsville, MD 20705-2351

SUBJECT: PV Application 9500014, Wheat variety 'Kofa'

Dear Alan:

Addendum to Exhibit A: Stability and uniformity have been observed in Kofa over four generations.

Revised Exhibit E: The variety 'Kofa' for which Plant Variety Protection is hereby sought was developed by Kim C. Shantz, an employee of Western Plant Breeders, Inc., all rights to any invention, discovery, or development made by the employee while employed by Western Plant Breeders, Inc., were assigned to Western Plant Breeders, Inc. with no rights of any kind retained by the employee.

Western Plant Breeders, Inc. requests that the variety 'Kofa' be issued a certificate of Plant Variety Protection under the revised PVP act of 1994.

Sincerely,

Kim Shantz
Wheat Breeder

14b.

Novelty Statement

KOFA is a day length insensitive spring durum wheat with an average height of 89 centimeters which is the same height as WestBred 881. KOFA most resembles WestBred 881 but differs from WestBred 881 in that Kofa has yellow anthers while WestBred 881 has purple anthers. KOFA has white auricles while WestBred 881 auricles have anthocyanin present. KOFA has green colored leaves with waxy bloom. The flag leaf is twisted and recurved. The stems are solid until near maturity and have waxy bloom. The spikes are long, mid-wide, dense, erect, and fusiform with long white awns. The glume shoulders are narrow and apiculate. The glume beaks are narrow, medium and acuminate. KOFA has long, wide, and elliptical seeds with short, medium non-collared brushes. The crease is narrow and shallow. The cheeks are rounded and the germ size is medium. The above comparisons along with the objective description (14C) show Kofa to be a novel variety of durum wheat.

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U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN AND SEED DIVISION
BELTSVILLE, MARYLAND 20785

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY

WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Western Plant Breeders, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

8111 Timberline Drive
Bozeman, MT 59715

FOR OFFICIAL USE ONLY

PVPO NUMBER 9500014

VARIETY NAME OR TEMPORARY DESIGNATION

PH888-260

KOFA

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g., or) when number is either 99 or less or 9 or less.

1. KIND:

1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

1 = SPRING 2 = WINTER 3 = OTHER (Specify) 1 = SOFT 2 = HARD 3 = OTHER (Specify)

1 = WHITE 2 = RED 3 = OTHER (Specify) Amber

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

FIRST FLOWERING LAST FLOWERING

4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
 NO. OF DAYS LATER THAN 4 = LEMHI 5 = NUGAINES 6 = LEEDS

7. WestBred Turbo 8. WestBred 881

5. PLANT HEIGHT (From soil level to top of head):

CM. HIGH 7. = WestBred Turbo
 CM. TALLER THAN 8. = WestBred 881

CM. SHORTER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (See reverse):

1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHR COLOR:

1 = YELLOW 2 = PURPLE

8. STEM:

Anthocyanin: 1 = ABSENT 2 = PRESENT

Waxy bloom: 1 = ABSENT 2 = PRESENT

Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT

Internodes: 1 = HOLLOW 2 = SOLID

NO. OF NODES (Originating from node above ground)

CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

Anthocyanin: 1 = ABSENT 2 = PRESENT

Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

Flag leaf at booting stage: 1 = ERECT 2 = RECURVED
3 = OTHER (Specify):

Flag leaf: 1 = NOT TWISTED 2 = TWISTED

Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

MM. LEAF WIDTH (First leaf below flag leaf)

CM. LEAF LENGTH (First leaf below flag leaf):

11. HEAD:

Density: 1 = LAX 2 = DENSE Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify) _____

CM. LENGTH MM. WIDTH

12. GLUMES AT MATURITY:

Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.) Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL Check: 1 = ROUNDED 2 = ANGULAR

Brush: 1 = SHORT 2 = MEDIUM 3 = LONG Brush: 1 = NOT COLLARED 2 = COLLARED

Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

MM. LENGTH MM. WIDTH GM. PER 1000 SEEDS

17. SEED CREASE:

Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI' Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

STEM RUST (Races) LEAF RUST (Races) STRIPE RUST (Races) LOOSE SMUT

POWDERY MILDEW BUNT OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

SAWFLY APHID (Bydv.) GREEN BUG CEREAL LEAF BEETLE

OTHER (Specify) _____ HESSIAN FLY RACES: GP A B C D E F G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	WestBred 881	Seed size	WestBred 881
Leaf size	WestBred 881	Seed shape	WestBred 881
Leaf color	WestBred 881	Coleoptile elongation	WestBred 881
Leaf carriage	WestBred 881	Seedling pigmentation	WestBred 881

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggles and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

Table 1

Yield in pounds per acre of KOFA and presently grown varieties in Western Plant Breeders' trials in California and Arizona.

<u>Location</u>	<u>Year</u>	<u>KOFA</u>	<u>WestBred 881</u>	<u>WestBred Turbo</u>	<u>Yavaros-79</u>
Phoenix, AZ	1989	4864	4070	5248	5100
	1990	5634	5096	7697	6643
	1991	6669	6618	8934	8384
	1992	6912	6451	7616	7565
Phoenix late, AZ	1990	5760	5504	5734	6362
	1991	7181	6912	8166	7923
	1992	5346	4981	4956	5346
El Centro, CA	1990	5428	5547	6453	5440
	1991	6643	6062	8141	8022
	1992	5072	4958	6132	4902
San Joaguin, CA	1990	7235	6582	8459	8582
	1991	5929	5469	8712	8204
Yuma, AZ	1992	6315	5770	8035	6631
		6076	5694	7253	6854

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Table 2

Percent protein of KOFA and presently grown varieties in Western Plant Breeders' trials.

<u>Location</u>	<u>Year</u>	<u>KOFA</u>	<u>WestBred 881</u>	<u>WestBred Turbo</u>	<u>Yavaros-79</u>
Phoenix, AZ	1989	14.5	14.9	13.7	13.1
	1990	14.4	14.2	12.7	12.5
	1991	14.9	15.4	14.1	12.8
	1992	13.8	13.5	11.9	11.5
Phoenix, AZ Late	1990	13.9	13.1	13.5	11.9
	1991	14.7	14.8	13.4	12.2
	1992	15.1	15.2	14.2	13.6
El Centro, CA	1990	11.5	11.6	9.9	10.1
	1991	15.5	15.7	14.1	13.2
	1992	15.4	16.0	14.5	13.3
San Joaquin, CA	1990	13.8	13.9	12.1	11.7
	1991	14.6	15.3	13.2	12.8
Yuma, AZ	1992	15.4	15.5	14.0	13.3
		14.4	14.5	13.2	12.5

Table 3

Semolina Color of KOFA and presently grown varieties in Western
Plant Breeders' trials.

<u>Location</u>	<u>Year</u>	<u>KOFA</u>	<u>WestBred 881</u>	<u>WestBred Turbo</u>	<u>Yavaros-79</u>
Phoenix, AZ	1989	2.0	2.0	2.5	2.9
	1990	2.0	2.5	3.0	3.5
	1991	2.5	2.0	2.5	3.0
	1992	2.0	3.0	3.0	3.7
Phoenix, AZ Late	1990	2.0	3.0	3.0	3.5
	1991	2.0	2.0	2.5	3.0
	1992	2.7	2.0	2.7	3.3
El Centro, CA	1990	2.5	2.3	3.0	3.3
	1991	2.0	2.0	3.0	3.5
	1992	2.7	3.0	3.3	4.0
San Joaquin, CA	1990	2.5	2.5	3.0	4.0
	1991	2.5	2.5	2.5	3.5
Yuma, AZ	1992	2.3	2.7	3.0	4.0
		2.3	2.4	2.8	3.5

* A visual rating with 1 = more yellow than the best
commercial varieties, 2 = best commercial varieties,
3 = below average color of commercial varieties,
4 = un-cceptable color.

Table 4

S.D.S. sedimentation of KOFA and presently grown varieties in Western Plant Breeders' trials.

<u>Location</u>	<u>Year</u>	<u>KOFA</u>	<u>WestBred 881</u>	<u>WestBred Turbo</u>	<u>Yavaros-79</u>
Phoenix, AZ	1989	31	29	28	24
	1990	35	33	27	24
	1991	36	36	30	26
	1992	36	35	33	28
Phoenix, AZ Late	1990	33	31	28	26
	1991	36	33	30	26
	1992	37	35	34	31
El Centro, CA	1990	33	35	29	25
	1991	38	34	32	27
	1992	40	37	35	29
San Joaquin, CA	1990	36	36	30	24
	1991	43	38	32	30
Yuma, AZ	1992	$\frac{38}{36.3}$	$\frac{36}{34.5}$	$\frac{34}{30.9}$	$\frac{30}{26.9}$

Table 5

Plant height of KOFA and presently grown varieties in
Western Plant Breeders' trials.

<u>Location</u>	<u>Year</u>	<u>KOFA</u>	<u>WestBred 881</u>	<u>WestBred Turbo</u>	<u>Yavaros-79</u>
Phoenix, AZ	1989	32	30	34	33
	1990	35	35	39	36
	1991	37	36	37	38
	1992	37	36	42	39
Phoenix, AZ Late	1990	32	34	35	37
	1991	37	36	40	38
El Centro, CA	1990	31	32	33	34
	1991	36	36	38	37
	1992	34	34	36	38
San Joaquin, CA	1990	37	37	37	37
	1991	39	39	39	38
		35.2	35.0	37.3	36.8

Plant height is in inches.

Table 6

Days to anthesis after March 1, 1989 of KOFA and presently grown varieties in Western Plant Breeders' trials.

<u>Location</u>	<u>Year</u>	<u>KOFA</u>	WestBred <u>881</u>	WestBred <u>Turbo</u>	<u>Yavaros-79</u>
Phoenix	1989	12	12	23	18
	1990	19	21	30	27
	1991	27	27	34	28
	1992	19	19	30	27
Phoenix late, AZ	1990	43	44	45	44

Table 7

Percent lodging of KOFA and presently grown varieties in Western Plant Breeders' trials.

<u>Location</u>	<u>Year</u>	<u>KOFA</u>	WestBred <u>881</u>	WestBred <u>Turbo</u>	<u>Yavaros-79</u>
Phoenix	1990	30	10	15	25
	1991	8	3	63	53
	1992	33	18	58	48
Phoenix late, AZ	1991	20	5	20	50
San Joaquin, CA	1990	15	5	10	58
El Centro, CA	1991	0	0	30	13
	1992	43	25	53	73
Yuma, AZ	1992	$\frac{50}{25}$	$\frac{73}{17}$	$\frac{43}{37}$	$\frac{70}{49}$

Table 8

Hard Amber Vitreous Counts of KOFA and presently grown varieties in Western Plant Breeders' trials.

<u>Location</u>	<u>Year</u>	<u>KOFA</u>	WestBred <u>881</u>	WestBred <u>Turbo</u>	<u>Yavaros-79</u>
El Centro, CA	1990	81	76	36	34

Table 9

Black Tip percentages of KOFA and presently grown varieties of Western Plant Breeders' trials.

<u>Location</u>	<u>Year</u>	<u>KOFA</u>	WestBred <u>881</u>	WestBred <u>Turbo</u>	<u>Yavaros-79</u>
Phoenix, AZ	1992	39	37	14	18
Yuma, AZ	1992	24	30	51	43
El Centro, CA	1992	$\frac{22}{28}$	$\frac{30}{32}$	$\frac{54}{40}$	$\frac{35}{32}$

Table 10

Quality of KOFA compared to WestBred 881 in Western Plant
Breeders' trials.

	<u>KOFA</u>			<u>WESTBRED 881</u>		
	<u>1990 Phoenix</u>	<u>1991 Phoenix</u>	<u>1991 El Centro</u>	<u>1990 Phoenix</u>	<u>1991 Phoenix</u>	<u>1991 El Centro</u>
Test Wgt	63.6	63.5	63.8	62.6	63.4	63.8
1000 K Wgt	53.2	64.9	61.0	50.8	61.0	57.8
Wht Ash	1.68	1.54	1.58	1.53	1.63	1.56
Wht Pro	12.8	14.5	15.4	13.2	14.8	15.2
Total extract	78.2	81.4	86.2	79.2	81.8	82.8
Semolina extract	64.4	63.5	64.9	64.1	62.2	64.6
Specks	43	13	53	53	37	57
Semolina ash	.8	.59	.68	.70	.64	.64
Dust color	85	95	95	85	95	90
Mix score	6	6	7	6	6	7
Semo pro	11.8	13.3	14.5	12.2	13.6	14.2
Visual color	10.0	9.5	9.5	10.0	9.5	9.5
Cook wgt	31.5	31.6	34.8	30.0	31.3	32.4
Firmness	7.88	7.32	6.87	7.50	6.44	7.19
Residue	6.3	6.8	6.8	6.0	6.2	6.9
Alveo graph W	369	277	241	212	246	--
P/L	1.8	3.0	3.8	1.4	3.4	--

Table 11

Mixograph scores of KOFA and WestBred 881 in Western Plant Breeders' trials.

<u>Location</u>	<u>Year</u>	<u>KOFA</u>	<u>WESTBRED 881</u>
Phoenix, AZ	1991	8.8	5.4
San Joaquin, CA	1991	6.6	4.4
Yuma, AZ	1991	9.2	6.4
Phoenix late	1991	<u>9.6</u>	<u>9.4</u>
		8.6	6.4